

**REMARKS**

Claims 1–39 are pending in this application. In the present office action, claims 1–14, 17–23, and 26–39 are rejected, and claims 15, 16, 24, and 25 are allowed.

In this response claims 13 and 22 have been amended. Reconsideration and allowance of claims 1–39 is respectfully requested in view of the following.

**Objections to the Drawings:**

The drawings were objected to under 37 C.F.R. § 1.83(a) because the Examiner believed the drawing do not show every feature of the invention. Specifically, the Examiner stated that the extendable or intermediate portion of the expandable shoe, having an outside diameter that is larger than the remainder of the shoe, as recited in claims 4, 9, 31, and 32, must be shown in the drawings.

The Applicant respectfully submits that these features are shown in the drawings. Intermediate portion (215b) is shown to have a outside diameter that is larger than the remainder of the shoe (215a, 215c) in FIGS. 5–8. Similarly, in a different embodiment, intermediate portion (305b) is shown to have a outside diameter that is larger than the remainder of the shoe (305a, 305c) in FIGS. 15–18.

Thus, the extendable or intermediate portion of the expandable shoe, having an outside diameter that is larger than the remainder of the shoe is shown in the drawings, and withdrawal of this objection is respectfully requested.

**Objections to the Specification:**

The specification was objected to because Examiner does not consider the Abstract of the disclosure to be adequate. In response, the Abstract is amended, as shown above. The amended Abstract meet the requirements. Accordingly, withdrawal of this objection is respectfully requested.

**Claim Objections:**

Claims 13–30, 33, 34, 36, 37, 38, and 39 were objected to for various informalities.

Claims 13 and 22 were objected to because the phrase “a fluidic material” in line

7 of each claim should be “a second fluidic material.” Claims 13 and 22 have been amended to recite “radially expanding at least a portion of the tubular liner by injecting fluidic material into the interior region of the shoe,” and “radially expanding at least a portion of the tubular liner by injecting fluidic material into the borehole below the expansion cone.” Thus, the article “a” has been deleted and no longer appears in front of the phrase “fluidic material.”

[T]he failure to provide explicit antecedent basis for terms does not always render a claim indefinite. If the scope of a claim would be reasonably ascertainable by those skilled in the art, then the claim is not indefinite. MPEP § 2173.05(e) (citing *Ex parte Porter*, 25 USPQ2d 1144, 1145 (Bd. Pat. App. & Inter. 1992) (“controlled stream of fluid” provided reasonable antecedent basis for “the controlled fluid”)). Accordingly, withdrawal of this objection is respectfully requested.

Claims 13–30 were objected to because the Examiner believed that claims 13–21 are identical to claims 22–30. In response, the Applicant respectfully submits that claims 13 and 22 have differing scopes, and thus, the claims are not identical. Claim 13 recites a method for forming a wellbore casing in a subterranean formation, where claim 22 recited a method for forming a tubular structure in a subterranean formation. Thus, the scope of claim 13 is different from the scope of claim 22. Claims 14–21, which depend from claim 13, differ from claims 23–30, which depend from claim 22, for at least the same reasons. Accordingly, withdrawal of this objection is respectfully requested.

Claims 33 and 38 were objected to because the Examiner believes they are identical. In response, the Applicant respectfully submits that claims 33 and 38 have differing scopes. Claim 33 recites an “expansion cone,” where claim 38 recites an “expansion device.” These two terms do not share the same meaning, thus, the scope of claim 33 is different from the scope of claim 38. Accordingly, withdrawal of this objection is respectfully requested.

Claims 34 and 39 were objected to because the Examiner believes they are identical. In response, the Applicant respectfully submits that claims 34 and 39 have differing scopes. Claim 34 recites an “expansion cone,” where claim 39 recites an “expansion device.” These two terms do not share the same meaning, thus, the scope

of claim 34 is different from the scope of claim 39. Accordingly, withdrawal of this objection is respectfully requested.

Claims 36 and 37 were objected to because the Examiner believes they are identical. In response, the Applicant respectfully submits that claims 36 and 37 have differing scopes, and thus, the claims are not identical. Claim 36 recites a method for forming a wellbore casing in a subterranean formation, where claim 37 recited a method for forming a tubular structure in a subterranean formation. Thus, the scope of claim 36 is different from the scope of claim 37. Accordingly, withdrawal of this objection is respectfully requested.

**Rejections Under § 102(b):**

Claims 1, 3, 4, 9, 10, 13, 17–22, 26–30, and 35–37 were rejected under 35 U.S.C. § 102(a) as being anticipated by EP 0 881 354 issued to Vercaemen (“Vercaemen”).<sup>1</sup> The Applicant respectfully traverses this rejection because Vercaemen does not disclose all of the limitations recited in the claims.

Vercaemen discloses a method and apparatus for cementing a well. The apparatus, best shown in FIG. 2, includes a liner head section (12) which includes a section of reduced diameter, and a main body or remainder portion (13). A die (14) is connected to a running string (col. 5, ll. 8–42). In operation, as shown in FIGS. 5–7, a cement slurry may be pumped through the pipe (25) and the open sealing means (17) (in FIG. 5). When the sealing means (17) is closed (in FIG. 6), fluid pressure is then applied to the bore of the liner segment (13) to provide upward movement of the die (28).

Claim 1 is directed to an apparatus for forming a wellbore casing in a subterranean formation, and it includes the limitation “an expandable shoe that defines an interior region for containing fluidic materials coupled to the expandable tubular liner.” As is well known in the art, a “shoe” forms the bottom part of a casing string. The entry for “casing shoe” from the Schlumberger® Oilfield Glossary is enclosed, showing the knowledge in the art.

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<sup>1</sup> Applicant notes that the true name of the inventor of EP 0 881 354 is “Vercaemer,” but it is misspelled on the face of the EP patent. The reference will be referred to as “Vercaemen” because that is the way the name is spelled on the face of the reference in question.

Vercaemen does not disclose any shoe, and even if the “sealing means 17” is likened to a shoe, it is not an “expandable shoe,” as recited in claim 1. Thus, claim 1 is allowable over Vercaemen. Dependent claims 3 and 4 are allowable for at least the same reasons. Accordingly, withdrawal of this rejection is respectfully requested.

Claim 9 is directed to a shoe that includes an intermediate annular portion that has “an outer circumference that is larger than the outer circumferences of the upper and lower annular portions.” Vercaemen does not disclose any shoe, and it certainly does not disclose a shoe with three annular portions, the intermediate of which has a larger outside diameter. Thus, claim 9 is allowable over Vercaemen. Dependent claim 10 is allowable for at least the same reasons. Accordingly, withdrawal of this rejection is respectfully requested.

Claims 13 and 22 are directed to methods of forming a wellbore casing and tubular structures that include “radially expanding at least a portion of the shoe by injecting a fluidic material onto the interior region of the shoe.” Vercaemen, on the other hand, does not disclose a shoe. It discloses expanding a liner section above the die (28), but it does not disclose expanding any shoe. Thus, claims 13 and 22 are allowable over Vercaemen. Dependent claims 17–21 and 26–30 are allowable for at least the same reasons. Accordingly, withdrawal of this rejection is respectfully requested.

Claim 35, like claim 1, includes the limitation “an expandable shoe that defines an interior region for containing fluidic materials coupled to the expandable tubular liner.” Claim 35 is allowable over Vercaemen for at least the same reasons as stated above for claim 1. Claims 36 and 37, like claim 13, include “radially expanding at least a portion of the [shoe or device].” Claims 36 and 37 are allowable over Vercaemen for at least the same reasons as stated above for claim 13. Accordingly, withdrawal of this rejection is respectfully requested.

#### **Rejections Under § 103(a):**

Claims 2, 5–8, 11, 12, 14, 23, 31–34, 38, and 39 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Vercaemen in view of U.S. Patent No. 5,794,702 issued to Nobileau (“Nobileau”). the Applicant respectfully traverses this rejection on

two separate grounds: (1) there is no motivation to combine these references and (2) the references, even when combined, do not teach or suggest all of the limitations in the claims.

No Motivation to Combine

"To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings..." MPEP § 2143. "The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in applicant's disclosure." MPEP § 2143.

Section 103 of the patent act "specifically requires consideration of the claimed invention 'as a whole.'" *Princeton Biochemicals, Inc. v. Beckman Coulter, Inc.*, 411 F.3d 1332, 1377 (Fed. Cir. 2005).

The "as a whole" instruction in title 35 prevents evaluation of the invention part by part. Without this important requirement, an obviousness assessment might successfully break an invention into its component parts, then find a prior art reference corresponding to each component. This line of reasoning would import hindsight into the obviousness determination by using the invention as a roadmap to find its prior art components. Further, this improper method would discount the value of combining various existing features or principles in a new way to achieve a new result--often the essence of invention.

Contrary to this reasoning, section 103 requires assessment of the invention as a whole. This "as a whole" assessment of the invention requires a showing that an artisan of ordinary skill in the art at the time of invention, confronted by the same problems as the inventor and with no knowledge of the claimed invention, would have selected the various elements from the prior art and combined them in the claimed manner. *Id.* In other words, section 103 requires some suggestion or motivation, before the invention itself, to make the new combination.

[*Id.* (citations omitted)]

Vercaemen, as described above, is directed to a method and apparatus for cementing a well. The method include using pressure to provide upward movement of a die to expand a segment of the liner with a reduced cross-section (12).

Nobileau discloses a method for casing a wellbore that includes deploying a continuous string of casing (15 in FIGS. 1A–1D) to a proper depth (col. 2, ll. 8–16). The

casing (15) includes a intermediate portion (15c) that extends typically several thousand feet (col. 3, ll. 53–55). Fluid pressure is used to drive an opening tool (31) that opens the intermediate portion (15b) from its folded configuration (col. 4, ll. 47–67). After cementing the casing (15) in place, forging packers (71 in FIG. 12) are used to plastically deform the a portion of the upper end portion (15c) into a tight gripping and sealing engagement with the cased section (11).

Notably, only the upper portion (15c) of Nobileau is plastically deformed. The opening of the intermediate section (15b) merely unfolds the section to reverse the folding that was done to the intermediate section (15b) before it was lowered into place.

Vercaemen and Nobileau are both directed to casing and cementing a wellbore, but the similarities end there. Vercaemen teaches cementing a casing and then using a die to radially expand the casing above the die. Nobileau, on the other hand, teaches folding a casing into a collapsed position, lowering it into a well, and then unfolding the casing.

The methods for casing a well are so different that a person having skill in the art with knowledge of one of the references would not look to the other to solve any problem because the references are incompatible. Moreover, neither reference creates a mono-diameter wellbore, as do one or more embodiments of the claimed invention, as shown in FIG. 11 (compare FIG. 7 of Vercaemen and FIG. 14 of Nobileau).

Thus, Vercaemen and Nobileau are not properly combinable because there is no motivation to combine these references. Doing so constitutes impermissible hindsight reconstruction. Accordingly, withdrawal of this rejection is respectfully requested.

#### References Do Not Teach Or Suggest All of the Claim Limitations

As discussed above, claim 1 is directed to an apparatus for forming a wellbore casing in a subterranean formation, and it includes the limitation “an expandable shoe that defines an interior region for containing fluidic materials coupled to the expandable tubular liner.” Vercaemen does not disclose any shoe, and even if the “sealing means 17” is likened to a shoe, it is not an “expandable shoe,” as recited in claim 1. Nobileau does not make up for this deficiency. No part of the shoe in Nobileau (19 in FIG. 1D) is ever expanded or even unfolded in any way. Thus, claim 1 is allowable over the combination of Vercaemen and Nobileau. Dependent claims 2–8 are allowable for at

least the same reasons. Accordingly, withdrawal of this rejection is respectfully requested.

Claim 9 is directed to a shoe that includes an intermediate annular portion that has “an outer circumference that is larger than the outer circumferences of the upper and lower annular portions.” Vercaemen does not disclose any shoe, and it certainly does not disclose a shoe with three annular portions, the intermediate of which has a larger outside diameter. Nobileau does not make up for this deficiency. The shoe (19) in of Nobileau does not have any intermediate section that includes a larger outside diameter than other portions of the shoe. Thus, claim 9 is allowable over the combination of Vercaemen and Nobileau. Dependent claims 10–12 are allowable for at least the same reasons. Accordingly, withdrawal of this rejection is respectfully requested.

Claims 13 and 22 are directed to methods of forming a wellbore casing and tubular structures that include “radially expanding at least a portion of the shoe by injecting a fluidic material onto the interior region of the shoe.” Vercaemen, on the other hand, does not disclose a shoe. It discloses expanding a liner section above the die (28), but it does not disclose expanding any shoe. Nobileau does not make up for this deficiency. No part of the shoe in Nobileau (19 in FIG. 1D) is ever expanded or even unfolded in any way. Thus, claims 13 and 22 are allowable over the combination of Vercaemen and Nobileau. Dependent claims 14–21 and 23–30 are allowable for at least the same reasons. Accordingly, withdrawal of this rejection is respectfully requested.

Claim 31 recites an “expandable shoe.” Vercaemen does not disclose any shoe, and even if the “sealing means 17” is likened to a shoe, it is not an “expandable shoe,” as recited in claim 31. Nobileau does not make up for this deficiency. No part of the shoe in Nobileau (19 in FIG. 1D) is ever expanded or even unfolded in any way. Thus, claim 31 is allowable over the combination of Vercaemen and Nobileau. Accordingly, withdrawal of this rejection is respectfully requested.

Claim 32 is directed to a shoe that includes an intermediate annular portion that has “an outer circumference that is larger than the outer circumferences of the upper and lower annular portions.” Vercaemen does not disclose any shoe, and it certainly does not disclose a shoe with three annular portions, the intermediate of which has a

larger outside diameter. Nobileau does not make up for this deficiency. The shoe (19) in of Nobileau does not have any intermediate section that includes a larger outside diameter than other portions of the shoe. Thus, claim 32 is allowable over the combination of Vercaemen and Nobileau. Accordingly, withdrawal of this rejection is respectfully requested.

Claims 33, 34, 38, and 39 are directed to methods of forming a wellbore casing and tubular structures that include “radially expanding at least a portion of the shoe by injection a fluidic material onto the shoe.” Vercaemen, on the other hand, does not disclose a shoe. It discloses expanding a liner section above the die (28), but it does not disclose expanding any shoe. Nobileau does not make up for this deficiency. No part of the shoe in Nobileau (19 in FIG. 1D) is ever expanded or even unfolded in any way. Thus, claims 33, 34, 38, and 39 are allowable over the combination of Vercaemen and Nobileau. Accordingly, withdrawal of this rejection is respectfully requested.

**Non-Statutory Type Double Patenting:**

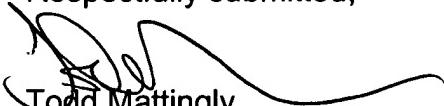
Claims 1–3 were rejected under the judicially-created doctrine of obviousness-type double patenting as being unpatentable over claims 1 and 5 of U.S. Patent No. 6,470,966. In response, the Applicant submits a Terminal Disclaimer with this response. The Terminal Disclaimer, under 37 C.F.R. § 1.321(c) and with respect to this application and U.S. Patent No. 6,470,966, overcomes this rejection. Accordingly, withdrawal of this rejection is respectfully requested.

**Conclusion**

In view of the foregoing amendments and remarks, it is respectfully submitted that the pending claims are drawn to novel subject matter, patentably distinguishable over the prior art of record. The Examiner is therefore respectfully requested to reconsider and allow claims presented for reconsideration herein. To the extent that the present amendment results in additional fees, the Applicant authorizes the Commissioner to charge deposit account no. 08-1394.

Should the Examiner deem that any further amendment is desirable to place this application in condition for allowance, the Examiner is invited to telephone the undersigned at the below listed telephone number.

Respectfully submitted,

  
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**casing shoe**

1. *n.* [Drilling]

The bottom of the casing string, including the cement around it, or the equipment run at the bottom of the casing string.

See: bullhead, casing string, float shoe, plug and abandon, shoe

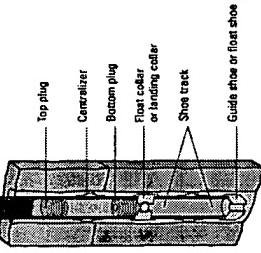
2. *n.* [Well Completions]

A short assembly, typically manufactured from a heavy steel collar and profiled cement interior, that is screwed to the bottom of a casing string. The rounded profile helps guide the casing string past any ledges or obstructions that would prevent the string from being correctly located in the wellbore.

Synonyms: guide shoe

See: float shoe

(Click to enlarge)



Cement shoe and float

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